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10/648,805	08/27/2003	Hiroaki Aizawa	14-018	3931

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EXAMINER	
MANCHO, RONNIE M	

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3663	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/648,805	AIZAWA ET AL.	
	Examiner	Art Unit	
	RONNIE MANCHO	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/31/08*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 1 and 2 the limitation, "the target speed is *continuously* calculated in accordance with driving operation" , emphasis added, is new matter because the limitation is not disclosed in the original disclosure. Applicant's fig. 6 step 304 shows a target creep speed, but there is no teaching of "the target speed is *continuously* calculated in accordance with driving operation". Fig. 6 shows that the target speed is intermittently calculated i.e. when the flow graph branches from 302 to 314 the target speed is not calculated. Thus there is no continuity as claimed.

The rest of the claims are rejected for depending on a rejected base claim.

3. Claims 1-35 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claims 1 and 2 the limitation, "the target speed is *continuously* calculated in accordance with driving operation" , emphasis added, is not enabled. Applicant's fig. 6 step 304 shows a target creep speed, but there is no teaching of "the target speed is *continuously* calculated in accordance with driving operation". Fig. 6 shows that the target speed is intermittently calculated i.e. when the flow graph branches from 302 to 314 the target speed is not calculated. Thus there is no continuity as claimed.

The rest of the claims are rejected for depending on a rejected base claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. As best understood, claims 1-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Kajiwara (5234071).

Regarding claim 1, Kajiwara (abstract, figs. 1-13) discloses a creep (i.e. when vehicle is moving at a constant slow speed especially in traffic; col. 1, lines 13-24; col. 5, lines 55-62; col. 6, lines 5-28) drive control device configured to execute, when a driver of a vehicle does not have either one of an intention to accelerate *(i.e. accelerator pedal is not operated)* the vehicle and an intention to maintain stopping *(i.e. when driver does not apply brakes)* of the vehicle, at least one of adjustment of a braking force applied (col. 1, lines 44-54; col. 6, lines 5-24) to the vehicle and adjustment of a driving force applied to the vehicle so as to execute a control such

that a vehicle speed becomes a value within a fixed range *(i.e. vehicle cruise control mode operates within a speed range; col. 5, lines 46-62)* with an upper limit of 10km/h *(i.e. in the prior art cruise control, the limiting speed of the car can be set to a desired speed limit including 10km/h)* and such that the speed of the vehicle becomes a predetermined target speed, wherein the target speed is calculated in accordance with a driving operation of the driver during the control, wherein there is a relationship between the target speed and a degree of brake pedal depression such that the greater the degree of brake pedal depression is, the smaller the target speed is (col. 6, lines 5-11), and the target speed is continuously calculated in accordance with the driving condition (this limitations is interpreted as -- the target speed is calculated in accordance with the driving condition--).

Regarding claim 2, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device comprising:

an engine output control unit (col. 1, lines 6-12; lines 25-54; col. 5, lines 24-54) configured to control an engine output in accordance with an engine control amount;

a braking force control unit (col. 1, lines 6-12; lines 25-54; col. 6, lines 24-28) configured to control a braking force applied to each wheel in accordance with a brake control amount;

an acceleration intention determination unit configured to determine whether a driver has an acceleration intention;

a stop maintenance intention determination unit (col. 6, lines 5-24) configured to determine whether the driver has a stop maintenance intention;

a target creep speed setting unit configured to set a target creep speed (col. 6, lines 24-28), wherein the target creep speed is calculated in accordance with a driving operation of the driver during a control (col. 6, lines 24-28);

a vehicle speed acceleration unit (col. 5, lines 46-54) configured to set a vehicle speed by at least one of increasing the engine output and decreasing the braking force;

a vehicle speed deceleration unit (col. 6, lines 5-24) configured to decrease a vehicle speed by at least one of decreasing the engine output and increasing the braking force;

a starting assistance control unit (col. 6, lines 11-17) which, when a result of a determination (acceleration pedal is not operated; col. 5, lines 55-62) by the acceleration intention determination unit and a result of a determination (brake pedal is not operated; col. 6, lines 17-24) of the stop maintenance intention determination unit are negative, configured to operate using a creep driving mode (col. 6, lines 24-28) in which the following occur:

the vehicle speed acceleration unit is operated when the vehicle speed is less than a first target vehicle speed (col. 5, lines 40-54) , and the first target vehicle speed is smaller than the target creep speed;

the vehicle speed deceleration unit is operated when the vehicle speed is larger than a second target vehicle speed (col. 5, lines 62-67), and the second target vehicle speed is larger than the target creep speed (columns 5-8), and

the target speed is continuously calculated in accordance with the driving condition.

Regarding claim 3, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the acceleration intention determination unit is configured to determine that the driver has the acceleration intention when a shift position of an automatic

transmission col. 6, lines 24-31) is set to a drive operable position by the driver, and when the acceleration intention determination unit is configured to detect at least one of an accelerator opening being equal to a predetermined amount (col. 5, lines 34-45), the vehicle speed being equal to or above a predetermined value (col. 5, lines 55-67), and the drive of the vehicle being controlled by an automatic driving control (cruise mode, col. 5, lines 55-67) other than the control executed by the starting assistance control unit.

Regarding claim 4, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the stop maintenance determination unit is configured to determine that the driver has the stop maintenance intention when the stop maintenance determination unit detects at least one of setting of a shift position of an automatic transmission to a drive inoperable position by the driver, execution of a brake operation (col. 6, lines 5-31) that generates braking force capable of causing stop maintenance of the vehicle, and execution of an automatic stop control that automatically stops the vehicle.

Regarding claim 5, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the target creep speed setting unit is configured to set the target creep speed by correcting a pre-set reference creep speed in accordance with at least one of a driving state of the vehicle and a road surface condition (up hill or down hill, col. 5, lines 46-67; col. 6, lines 24-31).

Regarding claim 6, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit is configured to execute correction such that the target creep speed becomes larger as an accelerator opening becomes larger.

Regarding claim 7, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit is configured to execute correction such that the target creep speed becomes smaller as a brake operation amount becomes larger (col. 5 &6).

Regarding claim 8, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit is configured to execute correction such that the target creep speed when the vehicle is moving in a backward direction is smaller than the target creep vehicle speed when the vehicle is moving in a forward direction (col. 6, lines 17-31).

Regarding claim 9, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit is configured to execute correction such that the target creep speed becomes smaller as a distance becomes smaller between the vehicle and an obstacle in a forward direction of the vehicle (col. 7, lines 57).

Regarding claim 10, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit is configured to execute correction such that the target creep speed becomes larger on a road with a downward gradient, and the target creep speed becomes smaller on a road with an upward gradient (col. 5, lines 46-67).

Regarding claim 11, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit is configured to execute a correction such that the target creep speed becomes larger in accordance with a length of

continuation of a state in which the braking force generated by the braking force control unit is equal to or above a predetermined value (col. 6, lines 5-31).

Regarding claim 12, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the target creep vehicle speed setting unit is configured to set, when a deviation between a present vehicle and the target creep speed is larger than a predetermined value, a new target creep speed that is the sum of the present vehicle speed and a value that accords with the deviation (col. 5 and 6).

Regarding claim 13, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed acceleration unit is configured to increase the vehicle speed by increasing the engine output after decreasing the braking force (col. 5 and 6).

Regarding claim 14, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed deceleration unit is configured to decrease the vehicle speed by increasing the braking force after decreasing the engine output (col. 5 and 6).

Regarding claim 15, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 14, wherein the vehicle speed deceleration unit is configured to decrease the vehicle speed by decreasing the engine output, and following this, increasing a gear ratio of a transmission (col. 5 and 6).

Regarding claim 16, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed acceleration unit is configured to increase the vehicle speed by at least one of being configured to set a second engine control amount with

which the engine output is controlled by the engine output control unit as the sum of the engine control amount and an engine control increase amount, and being configured to set a second brake control amount with which the braking force is controlled by the braking force control unit as the brake control amount minus a brake decrease amount (col. 5 and 6).

Regarding claim 17, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed deceleration unit is configured to decrease the vehicle speed by at least one of being configured to set a second brake control amount with which the braking force is controlled by the braking force control unit as the sum of the brake control amount and a brake control increase amount, and being configured to set a second engine control amount with which the engine output is controlled by the engine output control unit as the engine control amount minus an engine decrease amount (col. 5 and 6).

Regarding claim 18, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the creep drive control device is configured to respectively set the engine control increase amount and the brake control increase amount are in accordance with a deviation between the vehicle speed and the target creep speed (col. 5 and 6).

Regarding claim 19, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 18, wherein the creep drive control device is configured to respectively set the engine control increase amount and the brake control increase amount in accordance with at least one of a driving state of the vehicle, a road surface condition, and a driving operation of the driver (col. 5 and 6).

Regarding claim 20, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the creep drive control device is configured to

respectively set the brake decrease amount by correcting an amount that accords with a deviation between the braking force that accords with the brake control amount and a braking force that accords with a brake operation amount, using at least one of an accelerator opening (col. 5, lines 34-67) and a road surface coefficient of friction.

Regarding claim 21, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 17, wherein the creep drive control device is configured to respectively set the engine decrease amount by correcting an amount that accords with a deviation between the vehicle speed and the target creep speed, using at least one of a brake operation amount and a road surface coefficient of friction (col. 5 and 6).

Regarding claim 22, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed acceleration unit is configured to limits the engine control amount such that the engine control amount is equal to or less than an upper limit value (col. 5 and 6).

Regarding claim 23, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 22, wherein the vehicle speed acceleration unit is configured to execute a correction of the upper limit value in accordance with at least one of a driving state of the vehicle, a road surface condition, and a driving operation of the driver (col. 5 and 6).

Regarding claim 24, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the vehicle speed acceleration device is configured to execute a correction such that the engine control increase amount becomes smaller in either one of a case that the vehicle speed is a value proximate to zero, and a case that a gradient of a road surface is a downward gradient (col. 5 and 6).

Regarding claim 25, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the vehicle speed acceleration unit is configured to execute a correction such that the engine control increase amount becomes smaller in accordance with any one of an accelerator opening becoming smaller, a brake operation amount becoming larger (col. 5 and 6), and a road surface coefficient of friction becomes smaller

Regarding claim 26, Kajiwara (abstract, figs. 1-13) discloses the creep control device according to claim 22, wherein, when the vehicle speed acceleration unit is configured to limit the engine control amount to being equal to or less than the upper limit value, the vehicle speed acceleration unit suspends engine output control when the vehicle is either one of stationary and moving in a direction opposite to a direction of travel of the vehicle, and along with this, the starting assistance control unit is configured to cause the braking force control unit to generate a stop maintenance braking force for stop maintenance of the vehicle (col. 5 and 6).

Regarding claim 27, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 17, wherein the vehicle speed deceleration unit is configured to execute a correction such that the brake control increase amount becomes larger in accordance with any one of an accelerator opening becoming smaller, a brake operation amount becoming larger (col. 5 and 6), and a road surface coefficient of friction becoming larger.

Regarding claim 28, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 17, wherein the vehicle speed deceleration unit is configured to execute a correction such that the brake control increase amount becomes larger when a gradient of a road surface is a downward gradient (col. 5 and 6).

Regarding claim 29, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein, when the vehicle speed increases following a decrease of the engine output by the vehicle speed deceleration unit, the braking force control unit switches the wheel to which the braking force is applied during a period in which the braking force is applied (col. 5 and 6).

Regarding claim 30, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the braking force control device is provided with a first braking unit (brake pedal) that is configures to apply braking force to each wheel, and a second braking unit (engine brake) that is configured to apply braking force to each wheel independently of the first brake unit, and when the vehicle speed increases following a decrease of the engine output by the vehicle speed deceleration unit, the braking force control unit switches between generation of the braking force by the first braking unit and generation of the braking force by the second braking unit, during a period in which the braking force is applied (col. 5 and 6).

Regarding claim 31, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the starting assistance control unit is configured to cause the engine control amount to change such that the engine control amount agrees with an amount that accords with an accelerator pedal operation amount of the driver, when the creep driving mode is completed (col. 5 and 6).

Regarding claim 32, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the starting assistance control unit is configured to cause the brake control amount to change such that the brake control amount agrees with an amount

that accords with a brake pedal operation amount of the driver, when the creep (i.e. slow speed) driving mode is completed (cols. 5&6).

Regarding claim 33, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 1, wherein the creep drive control device includes a hydraulic brake device in which a master cylinder pressure, which is generated based on operation of a brake pedal, is transmitted to wheel cylinders, and the creep drive control device is configured to execute the control without transmitting the master cylinder pressure to the wheel cylinders (col. 5 and 6).

Regarding claim 34, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the creep drive control device includes a hydraulic brake device in which a master cylinder pressure, which is generated based on operation of a brake pedal, is transmitted to wheel cylinders, and the creep drive control device is configured to execute the control without transmitting the master cylinder pressure to the wheel cylinders (col. 5 and 6).

Regarding claim 35, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the starting of the control is executed such that the vehicle speed becomes a value within a fixed range with an upper limit of 10 km/h *(i.e. vehicle cruise control mode operates within a speed range; col. 5, lines 46-62; in the prior art cruise control, the limiting speed of the car can be set to a desired speed limit including 10km/h).*

Response to Arguments

6. Applicant's arguments filed 1/31/08 have been fully considered but they are not all persuasive.

The claim objections and 112 rejections in the office action dated 11/14/07 have been vacated.

The MPEP 2114/2115 rejections in the action dated 11/14/07 have been vacated in view of applicant's amendments.

Applicant argues that in the prior art, Kajiwara, the travel control apparatus stores the vehicle speed at which the brake pedal or acceleration pedal is released. And further that in the invention the target speed is continuously calculated based on the degree of depression of the brake pedal or the acceleration pedal. It is noted that limitations from the specification should not be read into the claims. Applicant's invention does not have support for "continuously calculated" as argued.

Applicant's fig. 6 step 304 shows a target creep speed, but there is no teaching of "the target speed is *continuously* calculated in accordance with driving operation". Fig. 6 shows that the target speed is intermittently calculated i.e. when the flow graph branches from 302 to 314 the target speed is not calculated. Thus there is no continuity as claimed.

The limitation, "the target speed is continuously calculated in accordance with the driving condition" is interpreted as -- the target speed is calculated in accordance with the driving condition--.

A section of the IDS submitted 9/6/07 was apparently not signed in the last office action. The IDS section has been considered and included in the present office action.

It is believed that the rejections are proper and stand.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronnie Mancho
Examiner
Art Unit 3663

4/27/2008

/Jack W. Keith/

Supervisory Patent Examiner, Art Unit 3663